

## PROLOGUE



*Aerial view of the Presumpscot River at the intersection of Route 302 in Westbrook, Maine on October 22, 1996.*

## WHAT IS A FLOOD?

Under the [National Flood Insurance Program \(NFIP\)](#), a “flood” or “flooding” is defined as:

- a. A general and temporary condition of partial or complete inundation of normally dry land areas from:
  1. the overflow of inland or tidal waters; or
  2. the unusual and rapid accumulation or runoff of surface waters from any source.
- b. The collapse or subsidence of land along the shore of a lake or other body of water as a result of one of several causes: erosion; undermining caused by waves or currents of water that exceed anticipated cyclical levels; an unusually high water level in a natural water body, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge; another similarly unusual and/or unforeseeable event that results in flooding as defined in paragraph (a)(1) of this definition.

## WHY IS IT IMPORTANT TO MANAGE FLOODPLAINS?

Floodplain management practices have evolved over the past century to include preventive efforts that reduce the cost of recovery from flooding disasters. Your community can reduce the loss of life and greatly reduce property damage due to flooding by taking a number of steps. One of these steps is to join the National Flood Insurance Program.

Communities that choose to participate in the NFIP adopt a resolution to join the Program and then complete a one-page application. [Appendix H](#) includes a sample resolution and a copy of the application form. The community then adopts an ordinance (see Chapter 1 for sample ordinance) to regulate development in flood hazard areas. There is no fee to join the Program. The cost of administering the floodplain ordinance is generally offset by the fees charged for permits given to those who apply to build within the flood hazard area.

Another important step a community should undertake is proper planning for land use within flood hazard areas. When preparing a comprehensive plan, careful consideration should be given to floodplain planning. It is important to guide new development away from the high-risk areas. [Regional planning commissions](#) (listed on the State Municipal Planning Assistance Program web site) can be helpful with this process, as can technical contacts with the [Association of State Floodplain Managers \(ASFPM\)](#). New infrastructure should not be invested in areas that are floodprone. Roads and bridges are very expensive to maintain and replace when damaged by frequent flooding. The repair and replacement costs must be borne by the taxpayers of the town since flood insurance is not available for damages to infrastructure.

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Floodplains also serve natural and beneficial functions, providing areas in which to direct flood waters during periods of heavy rainfall and runoff; providing areas for recharging the ground water; and providing natural habitat for plants and wildlife. Many cities and towns now recognize the recreational value of floodplains.

This handbook is intended to assist Maine municipalities, individuals, professionals, and citizens who are interested in good floodplain management. The program is designed not just to encourage floodplain management by meeting the minimum NFIP standards, but also to develop standards that go beyond the minimum and establish a solid foundation for reducing the risk of flooding in the community.

This manual is a dynamic document. It undergoes ongoing revision based on feedback from local officials and other professionals concerned about effective floodplain management. Please call the staff in the Floodplain Management Program at (207) 287-2801, or visit the Maine Floodplain Management Program online at <http://www.maine.gov/dacf/flood/index.shtml>. We welcome your input, including concerns, questions, or recommendations on how we can improve either this manual or the MFMP.

### **MAINE FLOOD FACTS**

- **There are 5,779 lakes and ponds in Maine.**
- **There are 3,500 miles of coastline in Maine.**
- **There are 2,772 square miles of floodplain in Maine.**

## **MAINE FLOODPLAIN MANAGEMENT PROGRAM**

Flooding in Maine is largely the result of coastal storms, heavy spring rains, runoff, and ice jams. This flooding has been responsible for millions of dollars of property damage. Private flood insurance is unavailable – insurers consider the risk of loss as being exceedingly high. It has been estimated that approximately 33,000 structures in Maine are floodprone. Your community can assist citizens in protecting their property from losses due to flooding by joining the NFIP. For more information, contact the Maine Floodplain Management Program. This Program assists communities in administering NFIP guidelines and practices.

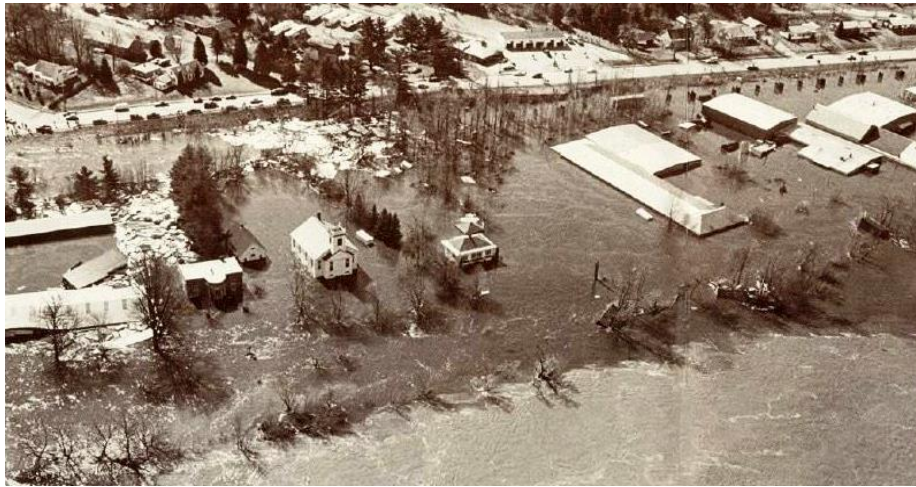
Participation in the voluntary NFIP program provides value to communities and their residents. In exchange for a community's commitment to practice sound land use management, residents are able to purchase flood insurance (provided by the NFIP) that will cover all or part of their home losses in the event of a flood. Currently, there are over 8,000 flood insurance policies in effect in Maine, with coverage over \$2 billion (*Source: FEMA NFIP insurance report 11/28/2018*). Mortgage lending and disaster assistance programs are severely limited in communities that do not participate in the NFIP. The [NFIP online program](#) page addresses these issues.

The MFMP provides technical information, floodplain maps, and model ordinances to communities that demonstrate interest in joining the NFIP, as well as to the homeowners, professional land surveyors, professional engineers, businesses, lenders, realtors, appraisers, site evaluators, other state and federal agencies, and others similarly interested in NFIP. MFMP staff members perform the following services, among others:

- workshops on reading and using flood maps, ordinance interpretation and floodplain management administration;
- review of local ordinances for compliance with the NFIP standards;
- assistance to NFIP communities that exceed minimum floodplain management standards by becoming rated in the [Community Rating System \(CRS\)](#), which reduces flood insurance premiums for CRS communities;
- work with other state agencies to ensure that development that is coordinated through various state permit reviews is designed and developed to minimize the potential of damage from flooding;
- review [Community Development Block Grants \(CDBG\)](#) that are submitted to the state [Department of Economic and Community Development](#); and
- review development plans that are submitted to the [Department of Environmental Protection \(DEP\)](#) under the [Natural Resources Protection Act \(NRPA\)](#), and the [Department of Agriculture, Conservation and Forestry \(DACF\)](#) to ensure that projects conform with the requirements of the National Flood Insurance Program as well as applicable laws for the site location.

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Communities may also take advantage of technical assistance from the Federal Emergency Management Agency (FEMA) Region 1 office in Boston, or from the regional planning commissions. For more information contact FEMA, the Maine regional planning commissions, or other technical assistance resources as listed in this manual.



*Aerial view of the Kennebec River at the intersection of Lithgow Street in Winslow, Maine, on April 1, 1987.*

## MAINE FLOODPLAIN MANAGEMENT HANDBOOK

The purpose of this handbook is to enhance the knowledge and skills of individuals responsible for floodplain management throughout the State of Maine. This manual was designed to broaden the understanding of floodplain management and the need to promote the wise use of floodplains, which are one of Maine's vital natural resources. This manual explains the floodplain regulation requirements of the NFIP. The introduction and seven chapters cover the topics shown as follows:

<b>Prologue</b>	Background on floodplain management and the Maine Floodplain Management Program
<a href="#"><u>Introduction</u></a>	Early floodplain development, the objectives of floodplain management, and a history of the NFIP.
<a href="#"><u>Chapter I</u></a>	Model Floodplain Ordinances prepared by the State Planning Office, with assistance from the Maine Municipal Association and the Attorney General's Office. The ordinance, once adopted, is the legal authority for a community's floodplain regulatory program.
<a href="#"><u>Chapter II</u></a>	Technical data, such as flood elevations, Flood Insurance Rate Maps (FIRMs), and how these determine the level of regulation applicable to a specific land area.
<a href="#"><u>Chapter III</u></a>	Floodplain projects that are subject to regulation.
<a href="#"><u>Chapter IV</u></a>	Preventing increased damages.
<a href="#"><u>Chapter V</u></a>	Regulatory development standards that development must meet in order to ensure that the objectives of the regulations are achieved.
<a href="#"><u>Chapter VI</u></a>	How local government institutes a regulatory system that incorporates permitting procedures, administrative requirements, variances and enforcement issues.
<a href="#"><u>Chapter VII</u></a>	Additional floodplain management resources.

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## ACRONYMS

<b>ASFPM</b>	Association of State Floodplain Managers	<b>GPS</b>	Global Positioning System
<b>BFE</b>	Base Flood Elevation	<b>HAG</b>	Highest Adjacent Grade
<b>CAC</b>	Community Assistance Contact	<b>LAG</b>	Lowest Adjacent Grade
<b>CAV</b>	Community Assistance Visit	<b>LIMWA</b>	Limit of Moderate Wave Action
<b>CBRA</b>	Coastal Barrier Resource Act	<b>LOMA</b>	Letter of Map Amendment
<b>CBRS</b>	Coastal Barrier Resources System	<b>LOMR</b>	Letter of Map Revision
<b>CEO</b>	Code Enforcement Officer	<b>MEMA</b>	Maine Emergency Management Agency
<b>CFR</b>	Code of Federal Regulations	<b>MFMP</b>	Maine Floodplain Management Program
<b>CFS</b>	Cubic Feet per Second	<b>MRSA</b>	Maine Revised Statutes Annotated
<b>CID</b>	Community Identification Number	<b>MSL</b>	Mean Sea Level
<b>CRS</b>	Community Rating System	<b>NAVD</b>	North American Vertical Datum
<b>DEP</b>	Department of Environmental Protection	<b>NFIP</b>	National Flood Insurance Program
<b>DOT</b>	Department of Transportation	<b>NGVD</b>	National Geodetic Vertical Datum
<b>EO</b>	Executive Order	<b>NRCS</b>	Natural Resource Conservation Service
<b>FBFM</b>	Flood Boundary and Floodway Map	<b>NSFHA</b>	No Special Flood Hazard Area
<b>FDIC</b>	Federal Deposit Insurance Corporation	<b>NWS</b>	National Weather Service
<b>FDPA</b>	Federal Disaster Protection Act	<b>PL</b>	Public Law
<b>FEMA</b>	Federal Emergency Management Agency	<b>PLS</b>	Professional Land Surveyor
<b>FERC</b>	Federal Energy Regulatory Commission	<b>RM</b>	Reference Mark
<b>FHA</b>	Federal Housing Administration	<b>RPC</b>	Regional Planning Commission
<b>FHBM</b>	Flood Hazard Boundary Map	<b>S&amp;L</b>	Savings and Loan
<b>FIA</b>	Federal Insurance Administration	<b>SBA</b>	Small Business Administration
<b>FIRM</b>	Flood Insurance Rate Map	<b>SFHA</b>	Special Flood Hazard Area
<b>FIS</b>	Flood Insurance Study	<b>USACE</b>	U.S. Army Corps of Engineers
<b>FmHA</b>	Farmers Home Administration	<b>USC</b>	United States Code
<b>FPE</b>	Flood Protection Elevation	<b>USDA</b>	U.S. Department of Agriculture
<b>FPM</b>	Floodplain Management	<b>USGS</b>	U.S. Geological Survey
<b>FPMO</b>	Floodplain Management Ordinance	<b>VA</b>	Veterans Administration
<b>GIS</b>	Geographic Information System		